

Claims

What is claimed is:

5 1. A method of exchanging data between a call processing system and an external system to ensure reconciliation of data stored within each of the systems, the method comprising the steps of:

creating a data message containing updated data within one of the systems;

storing the data message within the system that created the data message;

10 sending the data message to the other system;

reading the data message within the other system;

15 sending a receipt acknowledgment message to the system that sent the data message; and

modifying data within either one or both of the systems according to the updated data contained within the data message.

2. The method of claim 1, wherein one of the systems is a Database of Record.

3. The method of claim 1, wherein the data message contains data written in a self-describing format.

20 4. The method of claim 1, wherein the data message contains data written in XML format.

25 5. The method of claim 1, wherein the data message contains data relating to a telephone call placed on a telephone in communication with the call processing system.

6. The method of claim 1, wherein the data message contains data relating to an

order placed on a telephone in communication with the call processing system.

7. The method of claim 1, wherein the data message contains data relating to an account associated with a PIN number.

8. The method of claim 1, wherein the external system is a commissary system.

9. The method of claim 1, wherein the external system is the Law Enforcement Management System (LEMS).

10. The method of claim 1, further including the steps of:
sending an initial request for data to the other system; and
sending a response to the initial request for data to the system sending the initial request prior to the creation of the data message.

11. A method of exchanging data between a call processing system and an external system to ensure reconciliation of data stored within each of the systems, the method comprising the steps of:

creating a data message containing updated data within one of the systems;
sending the data message to the other system from a persistent store-and-forward message queue;
reading the data message within the other system;
sending a receipt acknowledgment message to the persistent message queue of the system that sent the data message; and
modifying data within either one or both of the systems according to the updated data contained within the data message.

12. The method of claim 11, wherein the data message contains data written in a self-describing format.

13. The method of claim 11, wherein the data message contains data written in XML format.

14. The method of claim 11, further including the step of:
removing the data message from the persistent store-and-forward message queue after data is modified within either one or both of the systems.

15. The method of claim 11, further including the step of:
saving the data message within either one or both of the systems to facilitate future reconciliation between both systems.

16. The method of claim 15, further including the step of:
sending an initial request for data to the other system from a transient message queue prior to creation of the data message.

17. The method of claim 16, further including the step of:
notifying a user of the call processing system if a response to the initial request for data is not received by the system that sent the initial request within a set amount of time.

18. The method of claim 16, further including the step of:
sending a response to the initial request for data to the system that sent the initial request prior to the creation of the data message.

19. A method for interfacing between a call processing system and an external system having a database containing information utilized by the call processing system, the method comprising the steps of:

selecting a desired function available via the call processing system;

requesting information relating to the selected function from the database of the external system;

sending the information to the call processing system;

evaluating the information to determine whether to allow the selected function to be performed;

performing the function within the call processing system;

storing data relating to the performed function within the call processing system;

sending the data to the external system; and

modifying the database of the external system based on the sent data.

20. The method of claim 19, wherein the database of the external system is the Database of Record.

21. The method of claim 19, wherein the data sent to the external system is in a self-describing format.

22. The method of claim 19, wherein the data sent to the external system is in XML format.

23. The method of claim 19, further including the step of:

sending a receipt acknowledgment message to the call processing system after the data is received by the external system.

24. The method of claim 19, further including the step of:
saving the data relating to the performed function within both of the systems.
25. A method of exchanging data between a call processing system and an external system in connection with prepaid debit related activity associated with a telephone call placed by a caller to ensure reconciliation of data stored within each of the systems, the method comprising the steps of:
- identifying the caller;
 - sending an initial request for account balance information associated with the caller to a prepaid debit platform of the external system from a transient message queue of the call processing system;
 - notifying the caller that the prepaid debit platform is unavailable when a response from the external system is not received within a configurable time period;
 - notifying the caller that insufficient funds are available to complete the call when account balance information is received by the call processing system that indicates insufficient funds are available to complete the call;
 - notifying the caller of the account balance information when the account balance information is received by the call processing system that indicates sufficient funds are available to complete the call;
 - processing the call up to the account balance if sufficient funds are available to complete the call;
 - sending a call detail record (CDR) of the completed call to the external system from a persistent store-and-forward message queue of the call processing system;
 - modifying data within the external system according to the CDR when the CDR is received by the external system; and
 - storing the CDR within either one or both of the systems.

26. The method of claim 25, wherein the caller is notified by a WAV file message.

27. The method of claim 25, further including the step of:

generating an alert within the call processing system when a response from the external system is not received by the transient message queue within the configurable time period.

28. The method of claim 27, wherein the alert is generated via SNMP.

29. The method of claim 27, wherein the alert is generated via MAPI Send-Mail.

30. The method of claim 25, further including the step of:

preventing the account from being used by a second caller until data within the external system has been modified according to the data record of the completed call.

31. A method of exchanging data between a call processing system and an external commissary system in connection with ordering commissary merchandise via a telephone call placed by a caller to ensure reconciliation of data stored within each of the systems, the method comprising the steps of:

selecting an item by entering a SKU associated with the item via the telephone;
requesting item information for the SKU from the external commissary system via a transient message queue;

notifying the caller that the external commissary system is unavailable when a response from the external system is not received within a configurable time period;

notifying the caller that the item is not available when the item information for the SKU is received by the call processing system and indicates that the item is not available;

notifying the caller of the item description and price when the item information for the SKU is received by the call processing system and indicates that the item is available;

prompting the caller for an item quantity when the item is available;

5 sending an order for the item to the external commissary system from a persistent store-and-forward message queue of the call processing system;

reading the order within the external commissary system;

modifying a database associated with the external commissary system according to the order;

10 completing the order; and

storing data relating to the order within either one or both of the systems.

32. The method of claim 31, wherein the caller is notified by a WAV file message.

15 33. The method of claim 31, wherein the order contains data written in a self-describing format.

34. The method of claim 31, wherein the order contains data written in XML format.

20 35. The method of claim 31, further including the step of:
generating an alert within the call processing system when the response from the external commissary system is not received by the transient message queue within the configurable time period.

25 36. The method of claim 35, wherein the alert is generated via SNMP.

37. The method of claim 35, wherein the alert is generated via MAPI Send-Mail.

38. A method of exchanging data between a call processing system and an external system in connection with maintaining personal identification number (PIN) information associated with a caller to ensure reconciliation of data stored within each of the systems, the method comprising the steps of:

5 sending a PIN information message to the call processing system from a persistent store-and-forward message queue;

 modifying a database within the external system according to the PIN information message when the PIN information message is received by the call processing system; and

10 storing the PIN information message within either one or both of the systems.

39. The method of claim 38, wherein the PIN information message contains data written in a self-describing format.

15 40. The method of claim 38, wherein the order contains data written in XML format.

41. A computer-readable medium having computer-executable instructions for performing steps for a server process to provide the exchange of data between a call processing system and an external system to ensure reconciliation of data stored within each of the systems, the steps comprising:

20 storing a data message created by and received from one of the systems that contains updated data;

 sending the data message to the other system;

 receiving a receipt acknowledgment message from the other system; and

25 removing the stored data message upon receiving the receipt acknowledgment;

 wherein the other system modifies an associated database according to the updated data when the data message is read by the other system.

42. The computer-readable medium having computer-executable instructions for performing the steps of claim 41, wherein the system that sent the data message stores the data message as a record of the transaction.

43. The computer readable medium of claim 41, wherein the server process utilizes a persistent store-and-forward message queue for sending and receiving data messages.

44. The computer readable medium of claim 41, wherein the data message is a call detail record (CDR).

45. The computer readable medium of claim 41, wherein the data message contains information relating to an order for merchandise.

46. The computer readable medium of claim 41, wherein the data message contains information relating to a personal identification number (PIN).

47. The computer readable medium of claim 41, wherein the data message contains data written in a self-describing format.

48. The computer readable medium of claim 41, wherein the data message contains data written in XML format.

49. The computer readable medium of claim 41, wherein the external system is a commissary system.

50. The computer readable medium of claim 41, wherein the external system is the Law Enforcement Management System (LEMS).

51. A method of accounting for transactions occurring with a primary computer system that relies upon an external computer system for functionality, the method comprising the steps of:

5 selecting a desired function available to a user via the primary system;
 requesting information relating to the selected function from a database of the
external system;
 sending the information to the primary system;
 evaluating the information to determine whether to allow the selected function
to be performed;
10 performing the function within the primary system;
 sending data relating to the performed function to the external system; and
 modifying the database of the external system based on the sent data.

52. The method of claim 51, further comprising the step of:

15 storing data relating to the performed function within the primary system prior
to sending the data to the external system.

53. The method of claim 51, wherein the data is in a self-describing format.

20 54. The method of claim 51, wherein the data is in XML format.

55. A method of accounting for transactions occurring with a primary computer system that relies upon an external computer system to carry out the transaction, the method comprising the steps of:

25 creating a data message containing updated data within the primary system based
on the transaction;
 sending the data message to the external system from a persistent store-and-

forward message queue;

reading the data message within the external system;

sending a receipt acknowledgment message to the persistent message queue of the primary system; and

modifying data within one of either and both of the systems according to the updated data contained within the data message.

56. The method of claim 55, wherein the data message contains data in a self-describing format.

57. The method of claim 55, wherein the data message contains data in XML format.

58. A call processor that relies upon an external computer system for selected functionality, the call processor comprising:

a computer-readable storage medium;

means recorded on the medium for facilitating selection of a desired function by a user through the call processor;

means recorded on the medium for requesting information relating to the selected function from a database of the external system;

means recorded on the medium for facilitating receipt of the requested information;

means recorded on the medium for evaluating the information to determine whether to allow the selected function to be performed;

means recorded on the medium for facilitating performance of the function through the call processor; and

means recorded on the medium for facilitating sending data relating to the performed function to the external system to allow the external system to update its data.

59. The computer readable medium of claim 58, wherein the data sent to the external system is in a self-describing format.

60. The computer readable medium of claim 58, wherein the data sent to the external system is in XML format.

61. The computer readable medium of claim 58, wherein the external system is a commissary system.

62. The computer readable medium of claim 58, wherein the external system is the Law Enforcement Management System (LEMS).

63. A call processing system that interacts with an external computer system to carry out a transaction within the call processing system, the call processing system including:

a computer-readable storage medium;

means recorded on the medium for facilitating the transaction within the call processing system;

means recorded on the medium for creating a data message containing updated data based on the transaction;

means recorded on the medium for sending the data message to the external system from a message queue;

means recorded on the medium for receiving a receipt acknowledgment message in the message queue; and

means recorded on the medium for removing the data message from the message queue upon receipt of the acknowledgment message.

64. The call processing system of claim 63, wherein the external system is the

Database of record and the call processing system does not retain any record of the transaction.

65. The computer readable medium of claim 63, wherein the data message is in a self-describing format.

66. The computer readable medium of claim 63, wherein the data message is in XML format.

67. The computer readable medium of claim 63, wherein the external system is a commissary system.

68. The computer readable medium of claim 63, wherein the external system is the Law Enforcement Management System (LEMS).